

Amtd. dated August 6, 2004
Reply to Office Action of May 6, 2004

Serial No. 09/399,694
Docket No. ST999037
Firm No. 0055.0009

REMARKS/ARGUMENTS

Claims 1-46 are pending in the application. Claim 45 has been amended. Reconsideration is respectfully requested. Applicants submit that the pending claims 1-46 are patentable over the art of record and allowance is respectfully requested of claims 1-46.

Applicants would like to thank Examiner Pham for holding a telephone interview with their representative, Janaki K. Davda, on August 5, 2004, at 2:00 p.m. (EST). Claim 1 and the Winter reference were discussed. No agreement was reached.

In paragraph 2, claim 45 was objected to as depending from claim 4. Claim 45 has been amended to overcome the objection and to place the claim in better form.

In paragraph 4, claims 1-7, 14-20, 27-33, and 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winter ("Design and Implementation of Derivation Rules in Information Systems"). Applicants respectfully traverse.

The Office Action cites FIG. 7 and page 236 of the Winter reference as describing receiving at least one rule definition, wherein each rule definition indicates a find criteria, a replacement value, and an input data column in the input table. During the telephone interview, Examiner Pham indicated that the "delete from production_program where p# = :old p#" is a rule definition and that p# is an input column. Applicants traverse. The delete from statement specifies a table (production_program) without specifying an input column. The where clause specifies a parameter (p#) rather than an input column. For example, in FIG. 6 of the Winter reference and on page 235, parameters include A and C, and the trigger declaration including the clause "where A = :old. C" results in the generated database trigger "where p# = :old p#". Thus, the delete rule definition specifies parameters and does not specify an input column.

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Additionally, during the telephone interview, Examiner Pham indicated that NULL is a replacement value used for the delete. Applicants traverse. In the Winter reference, in FIG. 7, references of PRODUCTION_PROGRAM objects are used to create after delete-triggers that propagate deletions of PRODUCT and TIME objects (page 236). After delete-triggers propagate the deletion of an object by deleting all referencing objects (page 234). The after delete-trigger of FIG. 7 propagates the deletion of object type D by deleting all referencing B objects (page 236). Because the after delete-trigger is meant to delete an object, there is no need to provide a replacement value.

As for the element of searching, for each rule definition, the input data column for any fields that match the find criteria, since a particular input data column is not specified by the rule of FIG. 7, this element is not taught or suggested by the Winter reference.

The Office Action indicates that the Winter reference does not explicitly teach propagating a deletion if the rule definition does not specify an output table and wherein subsequent applications of additional rule definitions applied to the same input data column operate on replacement values inserted in the input data column in previously applied rule definitions. First, Examiner Pham indicates that no output table was specified with the technique of creating a trigger. Thus, the Winter reference does not teach or suggest the subject matter of claim 1.

Additionally, Examiner Pham indicated during the telephone interview that the create trigger statement is a subsequent application of an additional rule definition. Applicants traverse. The claim language refers to one rule definition (described as the delete statement by Examiner Pham) and additional rule definitions. Because the create trigger applies the same delete rule definition, this teaches away from applications of *additional rule definitions*.

The Office Action further states that it would have been obvious to modify the Winter technique of propagating deletion by including an output table as a condition and applying trigger as subsequent application in order to propagate the deletion.

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The law is well settled that a reference will not support a rejection based upon obviousness where the proposed modification to the reference contravenes the principle of operation of the device of the reference:

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)

Here, the Examiner proposes modifying the operation of the Winter patent to require the after delete-trigger to specify an output table, and if the rule definition does not specify an output table, directly insert, for each rule definition, the replacement value in the fields in the input data column that match the find criteria. Because the after delete-trigger is used for deletions, there is no need to specify an output column, and the Examiner's modification of the Winter reference changes the principle of operation of the Winter reference.

Additionally, the Examiner proposes modifying the Winter reference so that subsequent applications of additional rule definitions applied to the same input data column operate on replacement values inserted in the input data column in previously applied rule definitions. Because objects are deleted and there are no replacement values inserted, such a modification changes the principle of operation of the Winter reference.

Therefore, the Examiner's proposed modifications are invalid. Thus, claim 1 is not taught or suggested by the Winter reference. Claims 14, 27, and 40 are not taught or suggested by the Winter reference for at least the same reasons as were discussed with respect to claim 1.

Dependent claims 2-7, 15-20, 28-33, and 41-46 depend from independent claims 1, 14, 27, and 40 and add additional novel elements. Therefore, claims 2-7, 15-20, 28-33, and 41-46 are not

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taught or suggested by the Winter reference for at least the same reasons as were discussed with respect to claims 1, 14, 27, and 40.

In paragraph 5, claims 8-13, 21-26, and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winter ("Design and Implementation of Derivation Rules in Information Systems") in view of Agrawal et al. (U.S. Patent No. 6,370,522 B1). Applicants respectfully traverse.

The Agrawal patent does not overcome the deficiencies of the Winter reference. For example, the Agrawal patent does not teach or suggest receiving at least one rule definition, wherein each rule definition indicates a find criteria, a replacement value, and an input data column in the input table; searching, for each rule definition, the input data column for any fields that match the find criteria; and, if the rule definition does not specify an output table, directly inserting, for each rule definition, the replacement value in the fields in the input data column that match the find criteria, wherein subsequent applications of additional rule definitions applied to the same input data column operate on replacement values inserted in the input data column in previously applied rule definitions. Therefore, claims 1, 14, 27, and 40 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Dependent claims 8-13, 21-26, and 34-39 depend from independent claims 1, 14, and 27 and add additional novel elements. Therefore, claims 8-13, 21-26, and 34-39 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination, for at least the same reasons as were discussed with respect to claims 1, 14, and 27.

For example, claims 8, 21, and 34 describe that the find criteria for at least one rule definition comprises an upper bound and lower bound, wherein searching comprises searching for any fields that have values within the upper and lower bounds. The Agrawal patent at Col. 9, lines 35-62 describes selectivity functions that are used to compute the selectivity of predicates in a SQL statement. A selectivity value is the fraction of rows of a table that satisfies a given predicate and is normally a

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numerical value between 0 and 1. Thus, selectivity is associated with satisfying a predicate, while the claimed upper and lower bound define bounds within which the find criteria are applied. The Agrawal patent at Col. 11, lines 46-66 describes range values that are expressed in terms of start and stop bounding values.

Claims 9, 22, and 35 depend from claims 8, 21, and 34, respectively. Claims 9, 22, and 35 further describe that the step of searching the input data column comprises applying each of the multiple find criteria to one field until one of: (i) a match occurs and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find criteria that matched the field content. The Office Action cites FIG. 7 as teaching this subject matter. However, because FIG. 7 describes deleting objects and does not mention inserting replacement values, FIG. 7 cannot teach or suggest the subject matter of claims 9, 22, and 35. Claims 9, 22, and 35 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Claims 10, 23, and 36 depend from claims 8, 21, and 34, respectively. Claims 10, 23, and 36 further describe that searching comprises searching for any fields that have values outside of one of the upper and lower bounds. The Agrawal patent at Col. 9, lines 35-62 is cited as teaching this subject matter. However, the cited portion of the Agrawal patent does not mention searching either within bounds or outside bounds. The Agrawal patent at Col. 11, lines 46-66 describes range values that are expressed in terms of start and stop bounding values. However, there is no mention of searching any fields that have values outside of the upper or lower bounds. Therefore, claims 10, 23, and 36 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Claims 11, 24, and 37 describe that the find criteria for at least one rule definition comprises an upper bound and lower bound and wherein the replacement value is an upper replacement value and further comprising a lower replacement value, wherein searching comprises searching for any fields that have values within the upper and lower bounds and wherein inserting comprises inserting the upper

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replacement value if the field has a value greater than the upper bound and inserting the lower replacement value if the field has a value less than the lower bound. The Agrawal patent at Col. 9, lines 35-62 is cited as teaching this subject matter. However, the cited portion of the Agrawal patent does not mention searching either within bounds or outside bounds. The Agrawal patent at Col. 11, lines 46-66 describes range values that are expressed in terms of start and stop bounding values. However, the Agrawal patent does not describe upper replacement values and lower replacement values. Therefore, claims 11, 24, and 37 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Claims 12, 25, and 38 describe that the at least one rule definition includes find criteria having upper and lower bounds includes multiple find criteria and a corresponding upper and lower replacement value for each find criteria, wherein the step of searching the input data column comprises applying each of the multiple find criteria to one field until one of: (i) a match occurs and (ii) none of the multiple find criteria are found to match the field content, and wherein inserting the replacement value comprises inserting the replacement value corresponding to one find criteria that matched the field content. The Office Action cites FIG. 7 as teaching this subject matter. However, because FIG. 7 describes deleting objects and does not mention inserting replacement values, FIG. 7 cannot teach or suggest the subject matter of claims 12, 25, and 38. Claims 12, 25, and 38 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Claims 13, 26, and 39 describe that the rule definitions include a row clean flag, and wherein at least one rule definition has the row clean flag set, further comprising removing any row including a field matching the search criteria from the input table when the row clean flag is set. The Office Action cites the Agrawal patent at Col. 11, lines 46-66 as teaching this subject matter. The Agrawal patent at Col. 11, lines 46-66 describes range values that are expressed in terms of start and stop bounding values and include flags that indicate if the bounding values are included or excluded from the range. This does

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not teach or suggest a row clean flag. Claims 13, 26, and 39 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Thus, claims 8-13, 21-26, and 34-39 are not taught or suggested by the Winter reference or the Agrawal patent, either alone or in combination.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-46 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0460.

The attorney of record invites the Examiner to contact her at (310) 553-7973 if the Examiner believes such contact would advance the prosecution of the case.

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